

**WHAT IS CLAIMED IS:**

1. A termination resistor comprising:

a first transistor;

a second transistor coupled to said first transistor;

a third transistor coupled to said second transistor; and

a first resistor coupled to said first transistor.

2. The termination resistor of claim 1, wherein said first, second and third transistors comprise metal-oxide semiconductor transistors.

3. The termination resistor of claim 2, wherein said metal-oxide semiconductor transistors comprise positive-channel metal-oxide semiconductor transistors.

4. The termination resistor of claim 2, wherein said metal-oxide semiconductor transistors comprise negative-channel metal-oxide semiconductor transistors.

5. The termination resistor of claim 1, wherein said first resistor comprises a poly resistor.

6. The termination resistor of claim 1, wherein said first resistor comprises a positive-channel metal-oxide semiconductor transistor.

7. The termination resistor of claim 1, further comprising a differential amplifier coupled to said first transistor.

8. The termination resistor of claim 7, further comprising a second resistor coupled to said differential amplifier.

9. The termination resistor of claim 1, wherein said first transistor comprises a source, and wherein said first resistor is coupled to said source.

10. A semiconductor device comprising:  
a semiconductor die;  
a first transistor coupled to said semiconductor die;  
a second transistor coupled to said first transistor;  
a third transistor coupled to said second transistor; and  
a first resistor coupled to said first transistor.

11. The semiconductor device of claim 10, wherein said first, second and third transistors comprise metal-oxide semiconductor transistors.

12. The semiconductor device of claim 11, wherein said metal-oxide semiconductor transistors comprise positive-channel metal-oxide semiconductor transistors.

13. The semiconductor device of claim 11, wherein said metal-oxide semiconductor transistors comprise negative-channel metal-oxide semiconductor transistors.

14. The semiconductor device of claim 10, wherein said first resistor comprises a poly resistor.

15. The semiconductor device of claim 10, wherein said first resistor comprises a positive-channel metal-oxide semiconductor transistor.

16. The semiconductor device of claim 10, further comprising a differential amplifier coupled to said first transistor.

17. The semiconductor device of claim 16, further comprising a second resistor coupled to said differential amplifier.

18. An on-die termination resistor integrated on a silicon die having power and pad terminals, said termination resistor comprising:

a first transistor having a first drain coupled to the power terminal, a first gate and a first source;

a second transistor having a second drain coupled to the power terminal, a second gate coupled to said first gate, and a second source;

a third transistor having a third drain coupled to said second source, a third source coupled to the pad terminal, and a third gate coupled to the pad terminal; and a first resistor coupled to the pad terminal and said first source.

19. The on-die termination resistor of claim 18, wherein said first, second and third transistors comprise metal-oxide semiconductor transistors.

20. The on-die termination resistor of claim 19, wherein said metal-oxide semiconductor transistors comprise positive-channel metal-oxide semiconductor transistors.

21. The on-die termination resistor of claim 19, wherein said metal-oxide semiconductor transistors comprise negative-channel metal-oxide semiconductor transistors.

22. The on-die termination resistor of claim 18, wherein said first resistor comprises a poly resistor.

23. The on-die termination resistor of claim 18, wherein said first resistor comprises a positive-channel metal-oxide semiconductor transistor.

24. The on-die termination resistor of claim 18, further comprising a differential amplifier coupled to said first gate and the pad terminal.

25. The on-die termination resistor of claim 24, further comprising a second resistor coupled to said differential amplifier.

0944304450